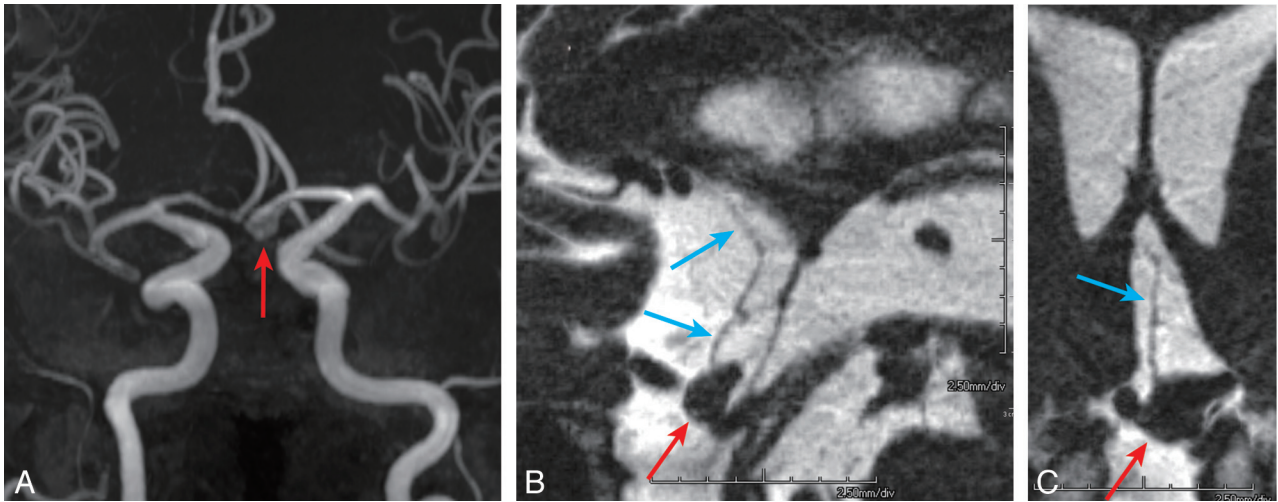


**On-line Table: Detailed MR findings of 10 patients<sup>a</sup>**

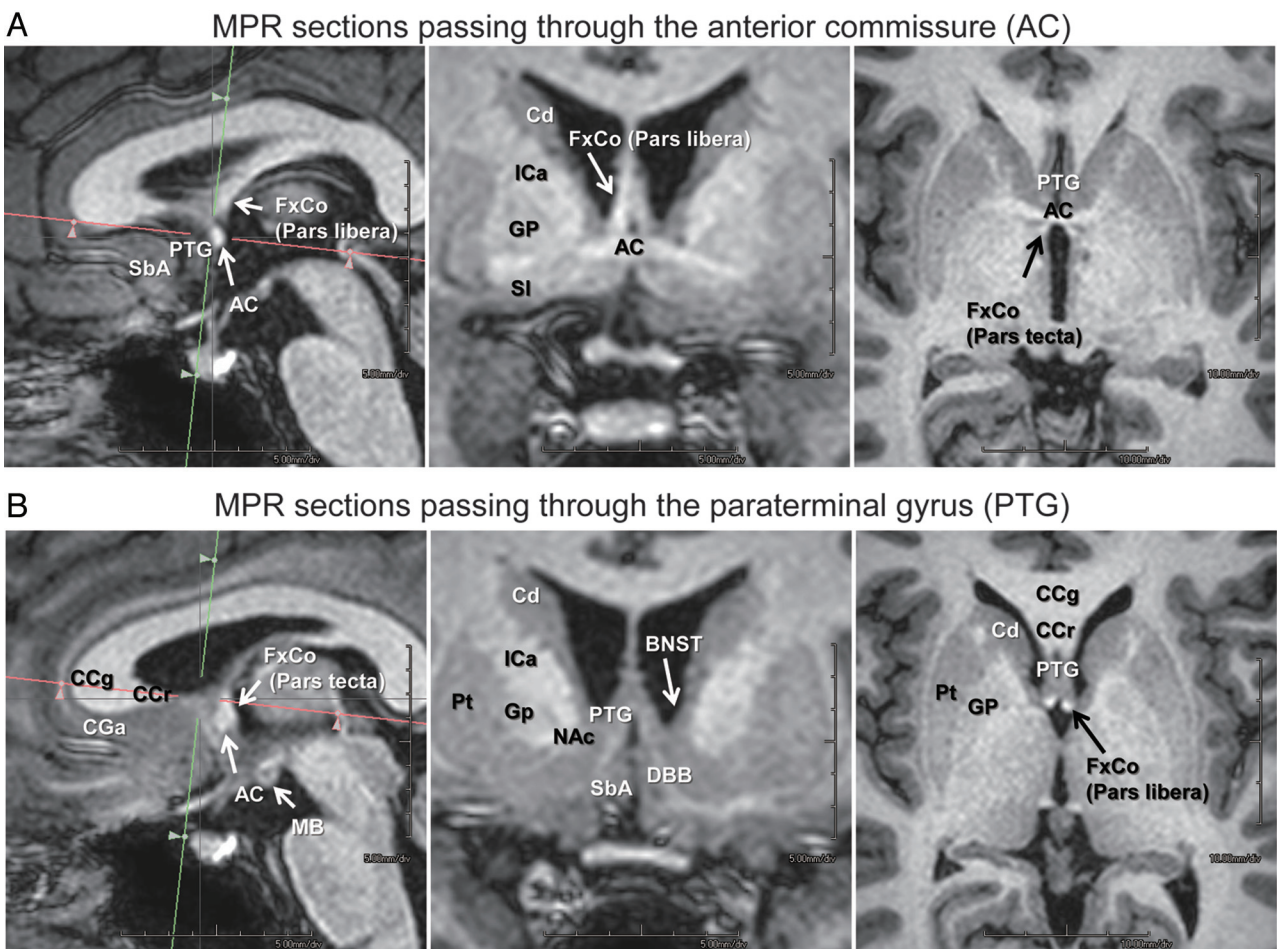
	Patient No. (R/L)																				Total/(Median)
	1		2		3		4		5		6		7		8		9		10		
	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	
Subcallosal artery (n = 8)																					
FxCo	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	19
AC	+	+	+	+	+	+	+	+	+					+	+	+	+	+	+	+	16
PTG	+	+	+	+		+			+	+	+				+	+	+	+	+	+	14
SbA	+		+	+	+	NA			NA	+	+				+	+	+	+	+	+	11
CCg	+	+	+	+							+	+			+	+	+	+			10
CCr	+	+	+	+						+	+			+	+	+				+	10
CGa	+		+							+	+	+			+	+	+			+	9
POpA	+		+			+											+				4
No./hemisphere	8	5	8	6	3	4	2	2	2	6	4	5	0	2	7	7	8	5	3	6	93
No./patient	13		14		7		4		8		9		2		14		13		9		(Median 9/patient)
RAH (n = 5)																					
Cd	+								+						+	+			+		5
ICa	+								+						+				+		4
Pt	+								+						+				+		4
NAC	+														+				+		3
GP									+								+				2
No./hemisphere	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	2	0	4	0	18
No./patient	4		0		0		0		4		0		0		4		2		4		(Median 1/patient)
Unspecified (n = 3)																					
DBB	+		NA	NA		+									+	+	+	+	+		7
BNST						+					+				+						3
SI															+						1
No./hemisphere	1	0	0	0	0	2	0	0	0	0	1	0	0	0	1	3	1	1	1	0	11
No./patient	1		0		2		0		0		1		0		4		2		1		(Median 1/patient)
Others																					
Orbitofrontal	+		+			+		+			+		+	+	+	+	+	+	+	+	12
Temporal tip			+					+												+	3
Other frontal																				+	1
Parietal lobe																	+				1
Infarcted part of FxCo																					
Pars libera	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	19
Pars tecta	+	+	+		+	+	+	+	+	+					+	+	+	+	+	+	15
Atrophy of mammillary body	+	+	NA		+	+	NA		+	+	+	+			+	+	+	+	+	+	15

**Note:**— R/L indicates right and left hemisphere; FxCo, column of the fornix; AC, anterior commissure; PTG, paraterminal gyrus including a part of the septum pellucidum; SbA, subcallosal area; CCg, genu of the corpus callosum; CCr, rostrum of the corpus callosum; CGa, anterior cingulate gyrus; POpA, preoptic area; Cd, caudate nucleus (anteroinferior part); ICa, anterior limb of the internal capsule; Pt, putamen (anteroinferior part); NAC, nucleus accumbens; GP, globus pallidus; DBB, diagonal band of Broca; BNST, bed nucleus of the stria terminalis; SI, substantia innominata; +, the presence of infarcted foci in each region; blank space, region was spared; NA, not applicable due to complete obscuration by metallic artifacts from aneurysmal clips; No./hemisphere, number of infarcted regions in each hemisphere; No./patient, number of infarcted regions in each patient; other frontal, frontal lobe other than orbitofrontal and basal forebrain regions.

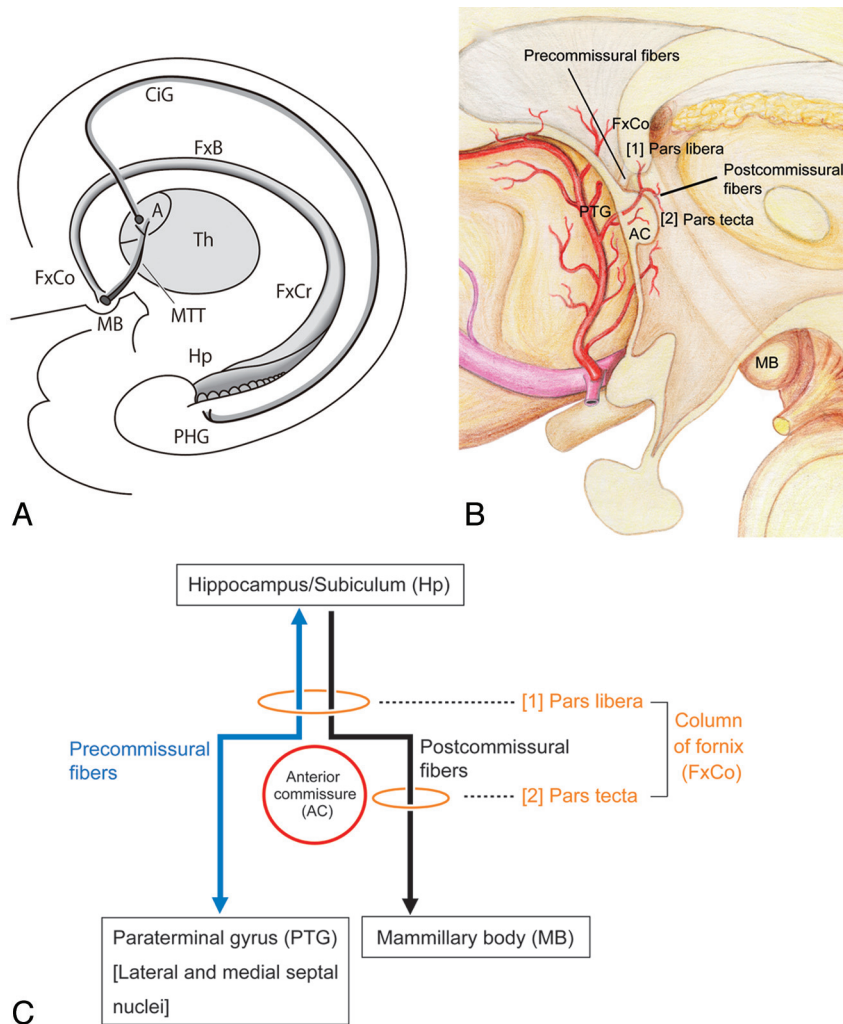
<sup>a</sup>See “Materials and Methods” in the article for the description of atrophy of the mammillary body.



**ON-LINE FIG 1.** MR imaging of the subcallosal artery in a patient with an ACoA unruptured aneurysm, not included in the subjects of this study. Anteroposterior view of the MR angiogram shows an unruptured aneurysm of approximately 5-mm diameter (red arrow, A) arising from the ACoA. Sagittal (B) and coronal (C) reconstructions of the 3D CISS images show the subcallosal artery (blue arrows). The artery originates from the posterosuperior aspect of the ACoA and ascends dorsally into the lamina terminalis cistern and curves upward and forward, thus exhibiting a characteristic S-shaped curve (blue arrows, B and C). Note that the origin of the subcallosal artery is very near the aneurysm (red arrows, B and C) and therefore might be injured during surgical treatment.

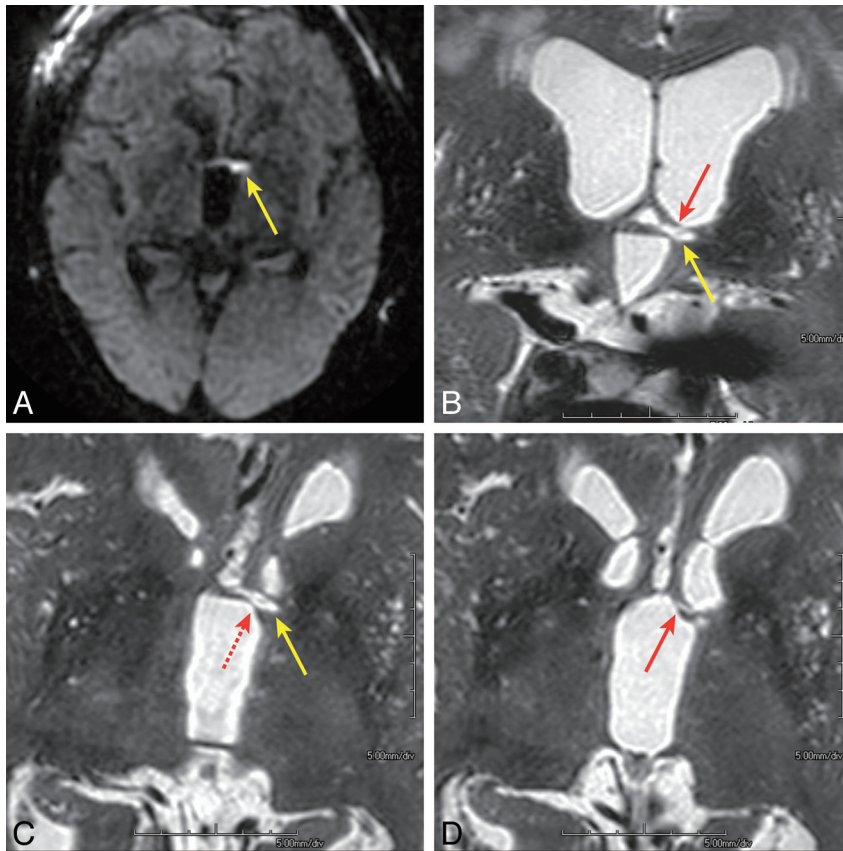


**ON-LINE FIG 2.** Identification of the regions of the basal forebrain on MR imaging by using MPR. All MPR images were generated from 3D data of MPRAGE images. A, MPR sections passing through the anterior commissure. The coronal image (middle) corresponds to the green line in the left panel (midsagittal), and the axial image (right) corresponds to the red line in the left panel, so that both images pass through the midline part of the anterior commissure. B, MPR sections passing through the paraterminal gyrus. Likewise, the coronal image (middle) corresponds to the green line in the left panel (paramedian sagittal), and the axial image (right) corresponds to the red line in the left panel, so that both images pass through the superior part of the paraterminal gyrus (including a part of the septum pellucidum).



**ON-LINE FIG 3.** A, Papez neuronal circuit, 2 parts of the column of the fornix and their relationship to the pre- and postcommissural fibers. The column of the fornix is an anterior part of the fornix and part of Papez neuronal circuit; the circuit conveys impulses from the hippocampus/subiculum (Hp) to the ipsilateral mammillary body, to the anterior nucleus (A) of the thalamus (Th) via the mammillothalamic tract (MTT), then to the cingulate gyrus (CiG), and finally back to the parahippocampal gyrus (PHG) via the cingulum. The entire circuit is presumably related to memory.<sup>41</sup> FxB indicates body of the fornix; FxCr, crus of the fornix. B, (magnified image of Fig 1B in the article) and C, column of the fornix comprises the pars libera (1) and pars tecta (2). The pars libera runs along the inferior margin of the septum pellucidum and divides into the pre- and postcommissural fibers (pars tecta) just above the anterior commissure.<sup>42</sup> The postcommissural fibers (pars tecta) pass just posterior to the anterior commissure and then through the hypothalamic area to reach the ipsilateral mammillary body, whereas the precommissural fibers, which are small, short, and unidentifiable on MR imaging, connect to the lateral septal nucleus. From the lateral septal nucleus, impulses reach the medial septal nucleus and the vertical limb of the diagonal band, both of which are important cholinergic centers. From these nuclei, cholinergic and GABAergic fibers project back to the hippocampus by the same route (ie, the precommissural fibers and the pars libera of the column of the fornix).<sup>43</sup> Because both the paraterminal gyrus and its adjacent septum pellucidum contain the lateral and medial septal nuclei, we use the abbreviation “PTG” for both the paraterminal gyrus and its adjacent septum pellucidum. The septal cholinergic fibers enhance the capacity for memorization, especially for spatial memory and learning.<sup>43</sup>





**ON-LINE FIG 4.** A 69-year-old man presented with amnesia immediately after clipping of an unruptured aneurysm of the anterior communicating artery (patient 7). A, DWI performed the day following aneurysmal clipping shows an acute infarction on the left side of the anterior commissure (*arrow*). Neuropsychological examination 3 months after the aneurysmal clipping confirmed amnesia, and the patient underwent 3D MR imaging. Coronal (B) and axial (C and D) images of volumetric isotropic turbo spin-echo acquisition of T2WI show the infarcted foci limited unilaterally to the anterior commissure (*yellow arrows*) and the adjoining pars libera (*solid red arrows*) and pars tecta (*dashed red arrow*) of the column of the fornix on the left. This unilateral involvement of the anterior commissure and the ipsilateral column of the fornix resembles an incomplete bow-tie. Shrinkage of the ipsilateral mammillary body is obvious (not shown).